

COMMUNITY AFFAIRS

Codes And Standards

Residential Site Improvement Standards

Streets and Parking; Stormwater Management

Proposed Amendments: N.J.A.C. 5:21-4.1, Table 4.1; 5:21-4.2, Table 4.3; 5:21-4.19, Table 4.8 and Figures 4.2 through 4.5; 5:21-7.2, 7.3 and 8.1

Authorized by: Susan Bass Levin, Commissioner, Department of Community Affairs

Authority: N.J.S.A. 40:55D-40.4.

Calendar Reference: See summary below for explanation of exception to calendar requirement.

Proposal Number: PRN 2006-

Submit written comments by November 17, 2006 to:

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SUSAN BASS LEVIN
Commissioner

The agency proposal follows:

Summary

Pursuant to P.L. 1993, c. 32, the Site Improvement Advisory Board is required to review the Residential Site Improvement Standards and make recommended changes on an annual basis. This proposal contains the Board's recommended changes for 2006. The proposed amendments are as follows:

1. Table 4.1 - The proposed amendments to Table 1 reflect an adoption of trip generation rates contained in the 7th edition of the Institute of Transportation Engineers (ITE) Trip Generation. These reflect separate trip generation rates for active adult communities as opposed to those retirement communities housing an older and more frail population. Under previous editions, both were included under the broader category of "retirement community." The proposed amendments replace "retirement community" with "senior adult housing - detached" and "senior adult housing - attached" with trip generation of 3.7 and 3.5 respectively. The proposed amendments list "continuing care retirement community, congregate care, assisted living and other age-restricted housing" in a separate category with a trip generation rate of 2.8.

2. Table 4.3 - The proposed addition to notes "e" and "m" in Table 4.3 would require that documentation prepared by an engineer be submitted to support the use of emergency vehicle access as a reason for an Agreement to Exceed the cul-de-sac radius contained in the rules. The Site Improvement Advisory Board has observed that "emergency vehicle access" frequently is cited as the reason for an Agreement to Exceed the specified cul-de-sac radius. The Board has reviewed the turning radius of a number of different trucks and commercial vehicles and finds that almost all of the trucks in use should be able to negotiate a cul-de-sac built in conformance with the standards. Additional pavement is not desirable because it adds impervious cover to the site, adds cost to the homes being built and adds to the maintenance burden that the town must assume. Accordingly, the Board has proposed an amendment to require documentation to support an Agreement to Exceed the specified cul-de-sac radius to accommodate emergency vehicles.

3. Notes to Figure 4.2 through 4.5 and Notes to Table 4.8 - The proposed amendments add a reference of the NJ Department of Transportation (DOT) specifications for "superpave" as an alternative paving specification.

4. 5:21-7.2(c) 1.vi. - The proposed amendments add references to United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) bulletins for the use of the most recent rainfall data available and for the use of the Delmarva unit hydrograph, where appropriate, for preparation of runoff calculations. A map is proposed for addition to show the coastal plain region for use of the Delmarva hydrograph.

5. 5:21-7.3(h) 1. - The proposed amendments clarify which referenced standard applies to which type of joint and add a reference to the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction" for the use of mortar joints.

6. 5:21-7.3(h) 3. - The proposed amendment will allow the use of corrugated polyethylene pipe of large diameters subject to the approval of the municipal engineer. This pipe is allowed for use by the New Jersey Department of Transportation on a case

by case basis. Accordingly, the use of this pipe will be subject to approval by the municipal engineer to ensure that the pipe is adequate for use in the proposed location(s).

7. 5:21-8.1 - The proposed amendments add the referenced standards mentioned above.

As the Department has provided a 60-day comment period for this notice of proposal, this notice is exempted from the rulemaking calendar requirement, pursuant to N.J.A.C. 1:30-3.3(a) 5.

Social Impact

The proposed amendments are expected to have a positive social impact. In the case of trip generation rates, the proposed amendments impose more appropriate requirements for housing for senior citizens. In the case of stormwater management, the proposed amendments allow the use of the most current data, methods and products. The general social benefit derived from these rules, i.e., predictable and uniform standards for residential development, will be enhanced by these proposed amendments.

Economic Impact

The proposed amendments are expected to have a positive economic impact in that they allow for the use of the most current standards and materials. For example, the proposed amendments to N.J.A.C. 5:21-4 reference the most current trip generation rates for age-restricted housing resulting in a potential savings in the cost of constructing streets and allow for the use of "superpave" as an alternative paving material.

Federal Standards Statement

No Federal standards analysis is required because the proposed amendments are not being proposed under the authority of or in order to implement, comply with, or participate in any program established under Federal law or State statute that incorporates or refers to Federal law, standards, or requirements.

Jobs Impact

The Department does not anticipate that the proposed amendments would result in the generation or loss of jobs.

Agriculture Industry Impact

The proposed amendments are not expected to have any impact on the agriculture industry.

Regulatory Flexibility Analysis

These proposed amendments would not impose new compliance, reporting, or recordkeeping requirements on residential developers, most of which are "small businesses" within the meaning of the Regulatory Flexibility Act, N.J.S.A. 52:14B – 16 et seq., or upon any other "small business." There are no professional services required for compliance with the proposed amendments that are not already necessary. The

proposed amendments should benefit these small businesses in that they allow for use of the most current standards and materials.

Smart Growth Statement

The Department does not expect that the proposed amendments would have any impact upon either the achievement of "smart growth" or implementation of the State Development and Redevelopment Plan.

Full text of the proposal follows (additions indicated in bold face **thus**; deletions indicated in brackets [thus]):

5:21-4.1 Street hierarchy

(a) – (d) (No change.)

TABLE 4.1 AVERAGE DAILY MOTOR VEHICLE TRAFFIC TRIP GENERATION PER DWELLING UNIT ¹	
LAND USE ²	PEAK RATE

[Retirement community]	[2.8]
<u>Senior Adult Housing - Detached</u>	<u>3.7</u>
<u>Senior Adult Housing - Attached</u>	<u>3.5</u>
<u>Continuing Care Retirement Community, Congregate Care, Assisted Living, & Other Age-Restricted Housing</u>	<u>2.8</u>

<p>NOTES: ¹The trip generation rates listed are guidelines only. The actual use of trip generation rates is derived by the use of regression analysis and should be computed only by professionals proficient in the use of the ITE <i>Trip Generation</i> manual. The “Land Use” definitions are based on the ITE manual, with slight modifications to address inconsistencies contained within the ITE manual.</p> <p> ²For two-family dwellings (duplexes), apply the values for single-family dwellings to each unit.</p> <p>SOURCE: Institute of Transportation Engineers, <i>Trip Generation</i> (Washington, D.C.: ITE, [1982], 3rd Edition. The table was updated with data from the 6th Edition of the manual published by ITE in 1997.] <u>2003, 7th Edition</u>. The peak ADT rates take into consideration Saturday and Sunday rates, as well as weekday rates.</p>	
TABLE 4.1 DEFINITIONS	
LAND USE	DEFINITION

5:21-4.2 Cartway width

(a) – (e) (No change.)

TABLE 4.3 CARTWAY AND RIGHT-OF-WAY WIDTHS								
STREET Type	TOTAL AVG. DAILY TRAFFIC	TRAV- ELED WAY	NO. OF PARKING Lanes	PARKING LANE WIDTH	CART - WAY WIDTH	CURB OR SHOUL- DER ^h	SIDE- WALK OR GRADED AREA ⁱ	RIGHT - OF-WAY WIDTH ⁱ

<p>NOTES:</p> <p>***</p> <p>^e Cartway widths of cul-de-sac stems should conform to the applicable street type. Right-of-ways for cul-de-sac stems shall extend a minimum of 8' beyond the cartway. Cul-de-sacs shall provide for a cartway turning radius of 40' and a right-of-way line 8' beyond the edge of the cartway. <u>No Agreement to Exceed the turning radius specified shall be executed pursuant to N.J.A.C. 5:21-3.6 for purposes of emergency vehicle access unless supporting documentation prepared by an engineer is submitted demonstrating that the specific emergency vehicle in question cannot negotiate this turn.</u></p> <p>***</p> <p>^m Cartway widths of multifamily cul-de-sac stems should conform to the applicable residential access street type. Cul-de-sacs shall provide for a cartway turning radius of 40 feet or other suitable means for vehicles to turn around, such as hammerheads. Where not located on private property, a right-of-way line eight feet beyond the edge of the cartway shall be provided. <u>No Agreement to Exceed the turning radius specified shall be executed pursuant to N.J.A.C. 5:21-3.6 for purposes of emergency vehicle access unless supporting documentation prepared by an engineer is submitted demonstrating that the specific emergency vehicle in question cannot negotiate this turn.</u></p>								

5:21-4.19 Street grade, intersections, pavement, and lighting construction standards

(a) – (c) (No change.)

TABLE 4.8 PER-INCH STRUCTURAL VALUE FOR VARIOUS PAVING MATERIALS		
Layer Material	Structural Value Per-Inch Thickness	Minimum Thickness

<p>Notes:</p> <p>¹ Materials for asphalt concrete surface shall conform to Section 404.02 <u>or 406.02</u> of the New Jersey Department of Transportation's Standard Specifications for Road and Bridge</p>		

Construction (1989).

²Materials for asphalt concrete base shall conform to Sections 301.02 and 304.02 **or 406.02** of the New Jersey Department of Transportation's Standard Specifications for Road and Bridge Construction (1989).

Figure 4.2 Pavement sections for rural lanes, rural streets, cul-de-sacs, and alleys (ADT is less than or equal to 500) (EAL is less than or equal to 30,000)

NOTES:

1. Materials for the asphalt concrete surface shall conform to Section 404.02 **or 406.02** of the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].
2. Materials for the asphalt concrete base shall conform to Sections 301.02 and 304.02 **or 406.02** of the N.J. Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].

Figure 4.3 Pavement sections for residential access and neighborhood streets (ADT is less than or equal to 1,500) (EAL is less than or equal to 80,000)

NOTES:

1. Materials for the asphalt concrete surface shall conform to Section 404.02 **or 406.02** of the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].
2. Materials for the asphalt concrete base shall conform to Sections 301.02 and 304.02 **or 406.02** of the N.J. Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].

Figure 4.4 Pavement sections for minor collectors (ADT is less than or equal to 3,500) (EAL is less than or equal to 200,000)

NOTES:

1. Materials for the asphalt concrete surface shall conform to Section 404.02 **or 406.02** of the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].
2. Materials for the asphalt concrete base shall conform to Sections 301.02 and 304.02 **or 406.02** of the N.J. Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].

Figure 4.5 Pavement sections for major collectors (ADT is less than or equal to 7,500) (EAL is less than or equal to 400,000)

NOTES:

1. Materials for the asphalt concrete surface shall conform to Section 404.02 **or 406.02** of the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].
2. Materials for the asphalt concrete base shall conform to Sections 301.02 and 304.02 **or 406.02** of the N.J. Department of Transportation's "Standard Specifications for Road and Bridge Construction" [(1989)].

5:21-7.2 Stormwater calculations: runoff estimation techniques

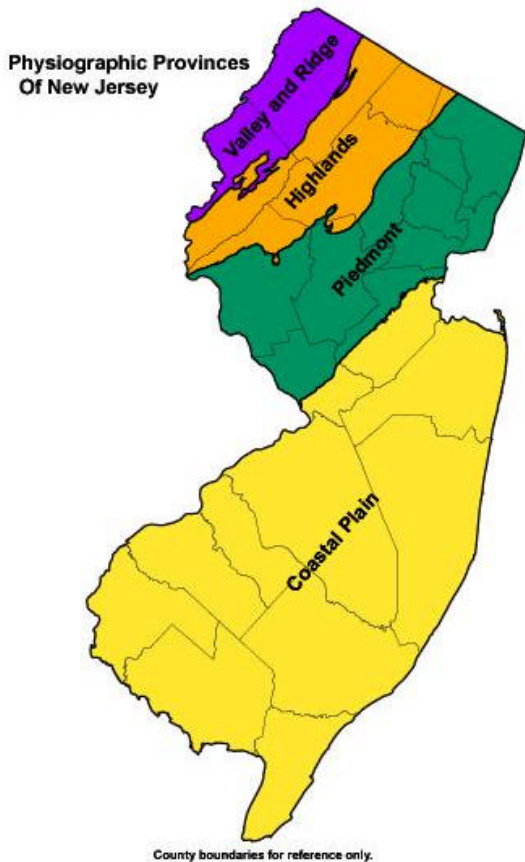
(a) - (b) (No change.)

(c) For the runoff peak rate of discharge calculation, design engineers shall have the option to choose the methodology to estimate peak rate of discharge.

1. Design engineers shall calculate peak rate of runoff in accordance with the following procedures and methods, incorporated herein by reference:

i. - v. (No change.)

vi. Runoff calculations derived from NRCS methods (TR-20 and TR-55) shall be done in accordance with NRCS New Jersey Bulletin No. NJ210-3-1, September 8, 2003 (application of the Delmarva unit hydrograph in the coastal plain region of New Jersey) and NRCS New Jersey Bulletin No. NJ210-4-1, September 8, 2004 (average county rainfall data). The coastal plain region is shown on the map below. New Jersey Bulletin No. NJ210-3-1 from the NRCS calls for the use of the Delmarva hydrograph only in coastal plain areas that have a flat topography (average watershed slope less than 5 percent), low relief, and significant surface storage in swales and depressions. (For more information on NRCS methods in New Jersey see: www.nj.nrcs.usda.gov/.)



Source: NRCS, NJ Supplement, Dimensionless Unit Hydrograph, September 2003.

- 2. - 7. (No change.)
- (d) - (e) (No change.)

5:21-7.3 Design of runoff collection systems

- (a) - (g) (No change.)

(h) Materials used in the construction of storm sewers shall be constructed of reinforced concrete, ductile iron, or corrugated polyethylene or, when approved by the municipal engineer, corrugated metal. The most cost-effective materials shall be permitted that conform to local site conditions and reflect the relevant operations, maintenance, and system character of the municipal stormwater system. Specifications referred to, such as ASTM or AWWA, shall be the latest revision in effect at the time of application.

- 1. The following apply to reinforced concrete pipe:

- i. - ii. (No change.)

iii. **If rubber gaskets are used** [Joint design and joint materials] for circular pipe, **the joint design and joint material** shall conform to ASTM C443.

iv. **If external sealing bands are used for** [Joints] **joints** for elliptical pipe, **they** shall **conform** [be bell and spigot or tongue and groove sealed with butyl, rubber tape, rubber ring gaskets, or external sealing bands conforming] to ASTM C877.

v. **Mortar joints shall conform to Sections 602.05 and 914.03 of the New Jersey Department of Transportation's "Standard Specifications for Road and Bridge Construction."**

Renumber v. - vii. as vi. - viii. (No change in text.)

2. (No change.)

3. Corrugated polyethylene pipe shall conform to AASHTO M252 for three through 10 inches and AASHTO M294 for sizes 12 inches and larger. **The use of corrugated polyethylene pipe greater than 36 inches in diameter shall be subject to approval by the municipal engineer.** All pipes greater than 12 inches in diameter shall be Type S, unless conditions dictate otherwise. Materials shall conform to ASTM D3350, "Standard Specification for Polyethylene Plastics Pipe and Fittings Materials." Pipe joints and fittings shall be compatible with the pipe material and shall conform to the same standards and specifications as the pipe material. Pipe couplers shall not cover less than one full corrugation on each section of pipe. Installation shall be in accordance with ASTM D2321, "Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications." Backfill material shall be placed in six-inch lifts and compacted to 95 percent minimum dry density, per AASHTO T99. In areas of high ground water tables, design engineers shall check for flotation.

4. (No change.)

(i) - (j) (No change.)

5:21-8.1 Referenced standards

(a) The following is a list of the standards referenced in this chapter. The standards are listed by the promulgating agency of the standard, the standard identification, the edition of the standard, the title of the standard, and the section(s) of this code that reference the standard. The standards listed in this chapter are not adopted or to be used in their entirety unless the rules specifically so state. The use of the standards included in this chapter is limited to those specific areas of the standard for which this chapter directs the user to the standard.

1. - 6. (No change.)

7. Institute of Transportation Engineers (ITE), Suite 410, 525 School Street, S.W., Washington, D.C. 20024-2729. Tel. (202) 554-8050.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER

Pub. No. IR-016C [6 th] 7th Edition [First Printing 1997] 2003	Trip Generation	5:21-4.1(b) Table 4.1

8. - 11. (No change.)

12. New Jersey Department of Transportation (NJDOT), PO Box 600, 1035 Parkway Avenue, Trenton, New Jersey 08625-0600. Tel. (609) 530-2000.

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STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
November 2001	Standard Specifications for Road and Bridge Construction	5:21-4.17(b) Figure 4.2 Figure 4.3 Figure 4.4 Figure 4.5 Table 4.8 5:21-6.2(c)6.ii(5) <u>5:21-7.3(h)1.v</u> 5:21-7.4(a)

13. - 15 (No change.)

16. United States Department of Agriculture (USDA), Natural Resources Conservation Service, (**NRCS**) Post Office Box 2890, Washington, D.C. 20013. Tel. (202) 205-0026. Documents can be downloaded from the following Internet address:
<http://www.info.usda.gov/CED/Default.cfm?xSbj=ALL&xAud=24>.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER

<u>New Jersey Bulletin No. NJ210-3-1 September 8, 2003</u>	<u>Engineering Field Handbook Supplement – Dimensionless (Delmarva) Unit Hydrograph</u>	<u>5:21-7.2(c)1.vi</u>
<u>New Jersey Bulletin No. NJ210-4-1 September 8, 2004</u>	<u>Engineering Field Handbook Supplement – Rainfall Frequency Data</u>	<u>5:21-7.2(c)1.vi</u>

17. - 19. (No change.)